

CLAIMS

What is claimed is:

1. A system for multiple access comprising:

a wireline switch configured to communicate using a wireline communication;

a wireless switch configured to communicate using a wireless communication; and

an access device configured to communicate with the wireline switch and the wireless switch.

2. The system of claim 1 wherein the access device is configured to receive the wireless communication from the wireless switch and to receive the wireline communication from the wireline switch.

3. The system of claim 1 wherein the access device is configured to transmit the wireless communication to the wireless switch and to transmit the wireline communication to the wireline switch.

4. The system of claim 1 wherein the wireless communication comprises at least one member of a group comprising a multipoint multichannel distribution service spectrum communication, a code division multiplex access communication, a personal communication service communication, an unlicensed personal communications services spectrum communication, an industrial scientific medical spectrum communication, an unlicensed national information infrastructure spectrum communication, and a satellite service communication.

5. The system of claim 1 wherein the wireline communication comprises at least one member of a group comprising a digital subscriber line based communication and a hybrid fiber coaxial based communication.

6. The system of claim 1 wherein the access device and the wireless switch are not within line of sight.

7. The system of claim 1 wherein the access device is configured to process at least one member of a group comprising the wireless communication and the wireline communication using an inverse multiplex asynchronous transfer mode protocol.

8. The system of claim 7 wherein the processing using inverse multiplex asynchronous transfer mode protocol comprises at least one member of a group comprising multiplexing and de-multiplexing.

9. The system of claim 1 wherein the access device further is configured to receive the wireless communication, to receive the wireline communication, and to use an inverse multiplex asynchronous transfer mode protocol to combine data from the wireless communication and other data from the wireline communication to form a premises communication.

10. The system of claim 9 further comprising a premises equipment configured to receive the premises communication from the access device.

11. The system of claim 1 wherein the access device is configured to use an inverse multiplex asynchronous transfer mode protocol to process a first portion of data for transmission in the wireless communication and to process a second portion of data for transmission in the wireline communication.

12. The system of claim 11 further comprising a premises equipment configured to transmit a premises communication to the access device, the premises communication comprising the first portion of data and the second portion of data.

13. The system of claim 1 wherein the access device comprises a digital
5 subscriber line modem.

14. The system of claim 1 wherein the wireline switch comprises a digital subscriber line access multiplexer.

15. The system of claim 1 wherein the wireline switch comprises at least one member of a group comprising a local exchange carrier switch and an interexchange
10 carrier switch.

16. The system of claim 1 wherein the access device is configured to process the wireless communication with at least one member of a group comprising encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

17. The system of claim 1 wherein the access device is configured to process the wireline communication with at least one member of a group comprising encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

18. The system of claim 1 wherein the wireless switch is configured to
20 process the wireless communication with at least one member of a group comprising encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

19. The system of claim 1 wherein the wireline switch is configured to process the wireline communication with at least one member of a group comprising encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

5 20. The system of claim 1 further comprising a service node configured to communicate with the wireless switch.

21. The system of claim 20 wherein the service node is configured to communicate with the wireless switch using at least one member of a group comprising a wireless communication and a wireline communication.

10 22. The system of claim 20 wherein the service node is configured to use an inverse multiplex asynchronous transfer mode protocol to process a portion of data for transmission to the wireless switch.

23. The system of claim 1 further comprising a service node configured to communicate with the wireline switch.

15 24. The system of claim 23 wherein the service node is configured to communicate with the wireline switch using at least one member of a group comprising a wireless communication and a wireline communication.

25. The system of claim 23 wherein the service node is configured to use an inverse multiplex asynchronous transfer mode protocol to process a portion of data for
20 transmission to the wireline switch.

26. The system of claim 1 wherein the wireless communication comprises a first service type communication and the wireline communication comprises a second service type communication.

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27. A system for multiple access comprising:

a wireline switch configured to receive a first set of communications, to format the first set of communications as at least one wireline communication, and to transmit the at least one wireline communication;

a wireless switch configured to receive a second set of communications, to format the second set of communications as at least one wireless communication, and to transmit the at least one wireless communication; and

an access device configured to receive the at least one wireline communication and the at least one wireless communication.

28. The system of claim 27 wherein the first set of communications are formatted as a plurality of wireline communications, and the wireline switch is configured to transmit the plurality of wireline communications to the access device.

29. The system of claim 27 wherein the wireline switch comprises a digital subscriber line access multiplexer, and the digital subscriber line access multiplexer is configured to multiplex the first set of communications as at least one digital subscriber line wireline communication.

30. The system of claim 27 wherein the second set of communications are formatted as a plurality of wireless communications, and the wireless switch is configured to transmit the plurality of wireless communications to the access device.

31. The system of claim 27 further comprising a premises equipment wherein the access device is configured to format the wireless communication to a digital communication and to transmit the digital communication to the premises equipment.

32. The system of claim 31 wherein the digital communication
5 comprises voice based data, and the premises equipment is configured to format the digital communication as an analog communication for voice access.

33. The system of claim 27 further comprising a premises equipment wherein the wireless communication comprises voice-based data, and the access device is configured to format the wireless communication to an analog communication for voice
10 access and to transmit the analog communication to the premises equipment.

34. The system of claim 27 wherein the first set of communications comprises data representative of at least one member of a group comprising voice-based data, internet protocol data, digital data, video data, and media data.

35. The system of claim 27 wherein the second set of communications
15 comprises data representative of at least one member of a group comprising voice-based data, internet protocol data, digital data, video data, and media data.

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36. A system for multiple access comprising:

an access transceiver configured to communicate using a wireline communication and a wireless communication;

a medium access control layer configured to control access to the access transceiver for communicating the wireline communication and the wireless communication; and

a service hub configured to communicate first data for the wireline communication and second data for the wireless communication for at least one premises communication.

37. The system of claim 36 further comprising a multiplexer configured to demultiplex the wireline communication and the wireless communication.

38. The system of claim 37 wherein the multiplexer is configured to process the wireline communication and the wireless communication with an inverse multiplex asynchronous transfer mode protocol to generate another communication.

39. The system of claim 36 further comprising a multiplexer configured to multiplex at least one member of a group comprising the first data and the second data.

40. The system of claim 39 wherein the multiplexer is configured to process the first data and the second data with an inverse multiplex asynchronous transfer mode protocol to generate the wireline communication and the wireless communication.

41. The system of claim 36 further comprising a modulator configured to modulate data from the premises communication for generation of at least one member of a group comprising the wireline communication and the wireless communication.

42. The system of claim 36 further comprising a modulator configured to demodulate data from at least one member of a group comprising the wireline communication and the wireless communication for generation of the premises communication.

5 43. The system of claim 36 wherein the access transceiver comprises at least one member of a group comprising a plain old telephone service port, a digital subscriber line port, a hybrid fiber coaxial port, and an antenna.

10 44. The system of claim 36 further comprising a premises equipment comprising at least one member of a group comprising a computer, a telephone, a set top box, and a narrowband device.

45. The system of claim 36 wherein the access transceiver is configured to transmit or receive the wireline communication and the wireless communication.

15 46. The system of claim 36 wherein the medium access control layer further is configured to control a resource for combining first data from the wireline communication and second data from the wireless communication to another communication.

47. The system of claim 36 wherein the service hub is configured to transmit or receive the premises communication.

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48. A method for multiple access comprising:

configuring a wireline switch to communicate using a wireline communication;

5 configuring a wireless switch to communicate using a wireless communication; and

configuring an access device to communicate with the wireline switch and the wireless switch.

49. The method of claim 48 further comprising receiving the wireless communication from the wireless switch at the access device and receiving the wireline communication from the wireline switch at the access device.

50. The method of claim 48 further comprising transmitting the wireless communication to the wireless switch from the access device and transmitting the wireline communication to the wireline switch from the access device.

51. The method of claim 48 further comprising using an inverse multiplex asynchronous transfer mode protocol to process at least one member of a group comprising the wireless communication and the wireline communication.

52. The method of claim 48 further comprising receiving the wireless communication, receiving the wireline communication, and using an inverse multiplex asynchronous transfer mode protocol to combine data from the wireless communication and other data from the wireline communication to form a premises communication.

53. The method of claim 52 further comprising receiving the premises communication at a premises equipment from the access device.

54. The method of claim 48 further comprising using an inverse multiplex asynchronous transfer mode protocol to process a first portion of data for transmission in the wireless communication and to process a second portion of data for transmission in the wireline communication.

5 55. The method of claim 54 further comprising transmitting a premises communication to the access device from a premises equipment, the premises communication comprising the first portion of data and the second portion of data.

56. The method of claim 48 further comprising processing the wireless communication at the access device with at least one member of a group comprising
10 encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

57. The method of claim 48 further comprising processing the wireline communication at the access device with at least one member of a group comprising
15 encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

58. The method of claim 48 further comprising processing the wireless communication at the wireless switch with at least one member of a group comprising encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

20 59. The method of claim 48 further comprising processing the wireline communication at the wireline switch with at least one member of a group comprising

encryption, de-encryption, encoding, decoding, multiplexing, de-multiplexing, modulation, and demodulation.

60. The method of claim 48 further comprising communicating between a service node and the wireless switch.

5 61. The method of claim 60 further comprising communicating using at least one member of a group comprising a wireless communication and a wireline communication.

62. The method of claim 61 further comprising communicating using an inverse multiplex asynchronous transfer mode protocol to process a portion of data for
10 transmission to the wireless switch.

63. The method of claim 48 further comprising communicating between a service node and the wireline switch.

64. The method of claim 63 further comprising communicating using at least one member of a group comprising a wireless communication and a wireline
15 communication.

65. The method of claim 63 further comprising communicating using an inverse multiplex asynchronous transfer mode protocol to process a portion of data for transmission to the wireline switch.

66. The method of claim 48 wherein the wireless communication
20 comprises a first service type communication and the wireline communication comprises a second service type communication.

67. A method for multiple access comprising:

receiving a first set of communications at a wireline switch, formatting the first set of communications as at least one wireline communication, and transmitting the at least one wireline communication;

receiving a second set of communications at a wireless switch, formatting the second set of communications as at least one wireless communication, and transmitting the at least one wireless communication; and

receiving the at least one wireline communication and the at least one wireless communication at an access device.

68. The method of claim 67 further comprising formatting the first set of communications as a plurality of wireline communications, and transmitting the plurality of wireline communications to the access device.

69. The method of claim 67 further comprising formatting the second set of communications as a plurality of wireless communications, and transmitting the plurality of wireless communications to the access device.